

**STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

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| In the Matter of: |) | Docket No. I&SE 01/02-007 |
| UNION PACIFIC OAKLAND |) | |
| COLISEUM SITE |) | |
| 700 73rd AVENUE |) | IMMINENT AND SUBSTANTIAL |
| OAKLAND, CALIFORNIA 94621 |) | ENDANGERMENT |
| |) | DETERMINATION AND ORDER |
| |) | AND REMEDIAL ACTION ORDER |
| Respondent : |) | |
| |) | |
| UNION PACIFIC RAILROAD |) | Health and Safety Code |
| COMPANY |) | Sections 25355.5(a)(1)(B), 25358.3(a), 58009 |
| 49 STEVENSON STREET,) |) | and 58010 |
| 15 th FLOOR |) | |
| SAN FRANCISCO, CALIFORNIA) |) | |
| 94105 |) | |

I. INTRODUCTION

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) issues this Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (Order) to Union Pacific Railroad Company (Respondent).

1.2 Property/Site. This Order applies to the property located at 700 73rd Avenue, Oakland, Alameda County, California 94621. The property is located in block 50 of the subdivision of the township of Fitchburg Homestead Lots, June 1870. The property consists of a rectangular lot (approximately 120 by 350 feet) and is identified by Assessor's Parcel numbers 41-3901-7-4 and 41-3901-7-3. A map showing the Property is attached as Exhibit A. This Order applies to the property and the areal extent of contamination that resulted from activities on the property (hereinafter, the ASite@).

1.3 Jurisdiction. This Order is issued by DTSC to Respondent pursuant to its authority under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010.

1.3.1 Health and Safety Code section 25358.3(a) authorizes DTSC to take various actions, including issuance of an Imminent or Substantial Endangerment Determination and Order, when DTSC determines that there may be an imminent or substantial endangerment to the public health or welfare or to the environment, because of a release or a threatened release of a hazardous substance.

1.3.2 Health and Safety Code section 25355.5(a)(1)(B) authorizes DTSC to issue an order establishing a schedule for removing or remedying a release of a hazardous substance at a site, or for correcting the conditions that threaten the release of a hazardous substance. The order may include, but is not limited to requiring specific dates by which the nature and extent of a release shall be determined and the site adequately characterized, a remedial action plan prepared and submitted to DTSC for approval, and a removal or remedial action completed.

1.3.3 Health and Safety Code section 58009 authorizes DTSC to commence and maintain all proper and necessary actions and proceedings to enforce its rules and regulations; to enjoin and abate nuisances related to matters within its jurisdiction which are dangerous to health; to compel the performance of any act specifically enjoined upon any person, officer, or board, by any law of this state relating to matters within its jurisdiction; and/or on matters within its jurisdiction, to protect and preserve the public health.

1.3.4 Health and Safety Code section 58010 authorizes DTSC to abate public nuisances related to matters within its jurisdiction.

II. FINDINGS OF FACT

DTSC hereby finds:

2.1 Liability of Respondent. Respondent is a responsible party or liable person as defined in Health and Safety Code section 25323.5. The Union Pacific Railroad Company is the present owner of the Site.

2.2 Physical Description of Site. The Site is located at the terminus of 73rd Avenue west of San Leandro Street. The site is a rectangular lot with plan dimensions of about 120 feet by 350 feet bounded by the Oakland Coliseum Bay Area Rapid Transit pedestrian walkway on the north, by Alameda flood control canal (Arroyo Viejo Creek) to the south and west, and by industrial properties to the east. Railroad tracks (three sets) traverse the site in a north-south orientation. The Oakland Coliseum is located near the site to the west. The BART Coliseum Station is on San Leandro Street to the north and east of the site.

2.3 Site History. The land was acquired by Central Pacific Railroad in March 1895. Melrose Station (Elmhurst, California) occupied the southwest corner of the site. This depot building was retired in 1933 and removed. Central Pacific Railroad merged with Southern Pacific Transportation Company. From September 1959 to March 1992, the site was operated as an auto salvage yard (Otto-s Foreign Auto Salvage) under two successive tenants. Southern Pacific Transportation Company and Union Pacific Railroad Company merged in 1996. The site has been unoccupied since 1992. Three railroad tracks (used as a team track facility) transverse the Site in a north south direction on the west side of the property.

2.4 Hazardous Substances Found at the Site.

2.4.1 Pursuant to section 102 of CERCLA, 42 U.S.C. section 9602, and H&SC section 25316, a substance is a hazardous substance if it is listed in Title 40, Code of Federal Regulations (ACFR), Section 302.4. Soil and groundwater investigations were conducted in 1998, 2000, 2001. Based on those investigations the following substances, listed in 40 CFR section 302.4, have been detected in the soil at the Site: polychlorinated biphenyls (APCBs) up to 420 mg/kg; tetrachloroethene (a.k.a. perchloroethene (PCE)) up to 6400 mg/kg; trichloroethene (TCE) up to 740 mg/kg ; and total petroleum hydrocarbons (TPH) up to 1600 mg/kg. The following substances, listed in 40 CFR section 302.4 , have been detected in the groundwater at the Site: PCBs up to 0.008 mg/l; PCE up to 150, 000 ug/l; TCE up to 21,000 ug/l; and TPH up to 390,000 ug/l.

2.4.2 Pursuant to section 64444 of Title 22 of the California Code of Regulations, the following substances have been found above their primary maximum contaminant level (MCL) : PCBs up to 0.008 mg/l (MCL is 0.0005mg/l); PCE up to 150, 000 ug/l (MCL 0.005 mg/l); TCE up to 21,000 ug/l (MCL 0.005 mg/l); vinyl chloride up to 0.012 mg/l (MCL 0.0005 mg/l).

2.5 Health Effects.

2.5.1 Polychlorinated Biphenyls (APCBs). PCBs are listed as a chemical known to the State to cause cancer and reproductive toxicity pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986. PCBs can cause liver damage, skin pigmentation changes and chloracne. Irritation of the eyes, nose, and throat may also occur. Systemic effects are usually dependent upon the degree of chlorination - the higher the degree, the stronger the effects. PCBs are known to bioaccumulate in human and animal tissues.

2.5.2 Tetrachloroethene (Perchloroethene, APCE). PCE is listed as a chemical known to the State to cause cancer pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986. Short-term exposure to PCE through ingestion and inhalation may cause nausea, vomiting, headache, dizziness, drowsiness, and tremors. Skin contact with PCE causes irritation and blistering. Liver and kidney toxicity are long-term effects.

2.5.3 Trichloroethene (ATCE). TCE is listed as a chemical known to the State to cause cancer pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986. Acute exposure to TCE causes headache, dizziness, vertigo, tremors, irregular heartbeat, fatigue, nausea, vomiting, and blurred vision. TCE vapors may cause irritation of the eyes, nose, and throat. Long-term effects may include liver and kidney damage.

2.5.4 Vinyl Chloride. Vinyl chloride is listed as a chemical known to the State to cause cancer pursuant to the Safe Drinking water and Toxic Enforcement Act of 1986. Inhalation of vinyl chloride causes headache, dizziness, abdominal pain, numbness, and tingling of the extremities. Vinyl chloride vapors cause eye irritation and may cause skin irritation. Long term effects of vinyl chloride exposure include liver damage and liver cancer. There is evidence that vinyl chloride causes mutagenicity.

2.6 Routes of Exposure.

2.6.1 People working or living (e.g. as unauthorized transients) on the site could be exposed to contaminants via dermal contact or via inhalation of volatile or dust-borne contaminants. Excavation of soil in the areas where contamination exists, could expose workers to contamination via dermal contact or via inhalation of contaminants, either from soil or groundwater.

2.6.2 If contaminated groundwater migrates to the adjacent Arroyo Viejo Creek and therefore to Oakland Estuary and San Francisco Bay (located down gradient from the Property), sensitive species may be exposed to contaminants via contact, inhalation and/or ingestion of contaminated water and/or plants.

2.7 Public Health and/or Environmental Risk.

2.7.1 The public at risk includes those people who work, or live (as transients nearby) or attend Oakland Coliseum events (parking), those who excavate into contaminated soil or groundwater, and/or persons who otherwise come into contact with, inhale or ingest contaminated air, soil or groundwater.

2.7.2 The Property is approximately 2600 feet up gradient from Oakland Estuary and San Francisco Bay. The potential exists for contaminated groundwater to migrate into the adjacent Alameda flood control canal (Arroyo Viejo Creek) , and consequently discharge into the wetlands and San Francisco Bay. The risk to the environment includes sensitive species (which may include threatened or endangered species) that may reside in the wetlands area adjacent to Arroyo Viejo Creek.

III. CONCLUSIONS OF LAW

3.1 Respondent(s) is a responsible party as defined by Health and Safety Code section 25323.5.

3.2 Each of the substances listed in Section 2.4 is a "hazardous substance" as defined in Health and Safety Code section 25316.

3.3 There has been a release@and/or there is a threatened release@of hazardous substances listed in Section 2.4 at the Site, as defined in Health and Safety Code section 25320.

3.4 The actual and threatened release of hazardous substances at the Site may present an imminent and substantial endangerment to the public health or welfare or to the environment.

3.5 Response action is necessary to abate a public nuisance and/or to protect and preserve the public health.

IV. DETERMINATION

4.1 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that response action is necessary at the Site because there has been a release and/or there is a threatened release of a hazardous substance.

4.2 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that there may be an imminent and/or substantial endangerment to the public health or welfare or to the environment because of the release and/or the threatened release of the hazardous substances at the Site.

4.3 Response action is necessary at the Site to abate a public nuisance.

V. ORDER

Based on the foregoing FINDINGS, CONCLUSIONS, AND DETERMINATION, IT IS HEREBY ORDERED THAT Respondent conduct the following response actions in the manner specified herein, and in accordance with a schedule specified by DTSC as follows:

5.1 All response actions taken pursuant to this Order shall be consistent with the requirements of Chapter 6.8 (commencing with section 25300), Division 20 of the Health and Safety Code and any other applicable state or federal statutes and regulations.

5.1.2 Removal Actions. Respondent shall undertake removal actions if, during the course of the Remedial Investigation (RI) or Feasibility Study (FS), DTSC determines that they are necessary to mitigate the release of hazardous substances at or emanating from the Site. DTSC may require Respondent to submit a removal action workplan that includes a schedule for implementing the workplan for DTSC's approval. Either DTSC or Respondent may identify the need for removal actions. Respondent shall implement the following removal actions. Workplans for implementing the following removal actions shall be submitted by the specified dates:

5.1.3 Removal of Material, Equipment and/or Debris. Respondent shall remove all above-ground material, equipment, tanks, and/or debris within sixty (60) calendar days of issuance of the Order.

5.1.4 Fence and Post.

5.1.4.1 Within fifteen (15) calendar days of issuance of the Order, Respondent shall install a fence in accordance with the specifications attached as Exhibit B. At no time shall the property remain unsecured. The fence shall secure, at a minimum, the areas specified on the Site map (Exhibit A).

5.1.4.2 Respondent shall install signs within fifteen (15) calendar days of issuance of the Order, which are visible from the area surrounding the contaminated Site and posted at each route of entry into the Site, including those routes likely to be used by unauthorized persons. The signs shall be in accordance with the specifications attached as Exhibit C.

5.1.4.3 The fence and signs shall be constructed of materials able to withstand the elements and shall be continuously maintained for as long as the hazardous materials and contamination remain on the Site.

5.2 Remedial Investigation/Feasibility Study (RI/FS). A RI/FS shall be conducted for the Site. The RI/FS may be performed as a series of focused RI/FSs, if appropriate, based on Site priorities. The RI/FS shall be prepared consistent with the U.S. Environmental Protection Agency's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," October 1988. The purpose of the RI/FS is to assess Site conditions and to evaluate alternatives to the extent necessary to select a remedy appropriate for the Site. RI and FS activities shall be conducted concurrently and iteratively so that the investigations can be completed expeditiously. Because of the unknown nature of the Site and iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. Respondent shall fulfill additional data and analysis needs identified by DTSC; these additional data and analysis requests will be consistent with the general scope and objectives of this Order.

The following elements of the RI/FS process and those defined by DTSC in Section 5.2.1 of this Order shall be preliminarily defined in the initial Site scoping and refined and modified as additional information is gathered throughout the RI/FS process.

- (a) Conceptual Site Model identifying contamination sources, exposure pathways, and receptors;
- (b) Federal, State and local remedial action objectives including applicable legal requirements or relevant and appropriate standards;
- (c) Project phasing including the identification of removal actions and operable units;
- (d) General response actions and associated remedial technology types; and

(e) The need for treatability studies.

5.2.1 RI/FS Objectives. The objectives of the RI/FS are to:

- (a) Determine the nature and full extent of hazardous substance contamination of air, soil, surface water and groundwater at the Site;
- (b) Identify all actual and potential exposure pathways and routes through environmental media;
- (c) Determine the magnitude and probability of actual or potential harm to public health, safety or welfare or to the environment posed by the threatened or actual release of hazardous substances at or from the Site;
- (d) Identify and evaluate appropriate response actions to prevent or minimize future releases and mitigate any releases which have already occurred; and
- (e) Collect and evaluate the information necessary to prepare a RAP.

5.2.2 RI/FS Workplan. Within forty-five (45) days from the effective date of this Order, Respondent shall prepare and submit to DTSC for review and approval a detailed RI/FS Workplan and implementation schedule which covers all the activities necessary to conduct a complete RI/FS of the Site.

The RI/FS Workplan shall include a detailed description of the tasks to be performed, information or data needed for each task, and the deliverables which will be submitted to DTSC. Either Respondent or DTSC may identify the need for additional work.

These RI/FS Workplan deliverables are discussed in the remainder of this Section, with a schedule for implementation, and monthly reports. The RI/FS Workplan shall include all the sections and address each component listed below.

(a) Project Management Plan. The Project Management Plan shall define relationships and responsibilities for major tasks and project management items by Respondent, its contractors, subcontractors, and consultants. The plan shall include an organization chart with the names and titles of key personnel and a description of their individual responsibilities.

(b) Scoping Document.

(1) An analysis and summary of the Site background and the physical setting. At a minimum, the following information is required:

(A) A map of the Site, and if they exist, aerial photographs and blueprints showing buildings and structures;

(B) A description of past disposal practices;

(C) A list of all hazardous substances which were disposed, discharged, spilled, treated, stored, transferred, transported, handled or used at the Site, and a description of their estimated volumes, concentrations, and characteristics;

(D) A description of the characteristics of the hazardous substances at the Site; and

(E) If applicable, a description of all current and past manufacturing processes which are or were related to each hazardous substance.

(2) An analysis and summary of previous response actions including a summary of all existing data including air, soil, surface water, and groundwater data and the Quality Assurance/Quality Control (QA/QC) procedures which were followed;

(3) Presentation of the Conceptual Site Model;

(4) The scope and objectives of RI/FS activities;

(5) Preliminary identification of possible response actions and the data needed for the evaluation of alternatives. Removal actions shall be proposed, if needed, based on the initial evaluation of threats to public health and the environment. If remedial actions involving treatment can be identified, treatability studies shall be conducted during the characterization phase, unless Respondent and DTSC agree that such studies are unnecessary as set forth in Section 5.4; and

(6) If applicable, initial presentation of the Site Remediation Strategy.

(c) Field Sampling Plan. The Field Sampling Plan shall include:

(1) Sampling objectives, including a brief description of data gaps and how the field sampling plan will address these gaps;

(2) Sample locations, including a map showing these locations, and proposed frequency;

(3) Sample designation or numbering system;

(4) Detailed specification of sampling equipment and procedures;

(5) Sample handling and analysis including preservation methods, shipping requirements and holding times; and

(6) Management plan for wastes generated.

(d) Quality Assurance Project Plan. The plan shall include:

(1) Project organization and responsibilities with respect to sampling and analysis;

(2) Quality assurance objectives for measurement including accuracy, precision, and method detection limits. In selecting analytical methods, Respondent shall consider obtaining detection limits at or below potentially applicable legal requirements or relevant and appropriate standards, such as Maximum Contaminant Levels (MCLs) or Maximum Contaminant Level Goals (MCLGs);

(3) Sampling procedures;

(4) Sample custody procedures and documentation;

(5) Field and laboratory calibration procedures;

(6) Analytical procedures;

(7) Laboratory to be used certified pursuant to Health and Safety Code section 25198;

(8) Specific routine procedures used to assess data (precision, accuracy and completeness) and response actions;

(9) Reporting procedure for measurement of system performance and data quality;

(10) Data management, data reduction, validation and reporting. Information shall be accessible to downloading into DTSC's system; and

(11) Internal quality control.

(e) Health and Safety Plan. A site-specific Health and Safety Plan shall be prepared in accordance with federal (29 CFR 1910.120) and state (Title 8 CCR Section 5192) regulations and shall describe the following:

(1) Field activities including work tasks, objectives, and personnel requirements and a description of hazardous substances on the Site;

(2) Respondent key personnel and responsibilities;

(3) Potential hazards to workers including chemical hazards, physical hazards, confined spaces and climatic conditions;

- (4) Potential risks arising from the work being performed including the impact to workers, the community and the environment;
 - (5) Exposure monitoring plan;
 - (6) Personal protective equipment and engineering controls;
 - (7) Site controls including work zones and security measures;
 - (8) Decontamination procedures;
 - (9) General safe work practices;
 - (10) Sanitation facilities;
 - (11) Standard operating procedures;
 - (12) Emergency response plan covering workers addressing potential hazardous material releases;
 - (13) Training requirements;
 - (14) Medical surveillance program; and
 - (15) Record keeping.
- (f) Other Activities. A description of any other significant activities which are appropriate to complete the RI/FS shall be included.
- (g) Schedule. A schedule which provides specific time frames and dates for completion of each activity and report conducted or submitted under the RI/FS Workplan including the schedules for removal actions and operable unit activities.

5.2.3 RI/FS Workplan Implementation. Respondent shall implement the approved RI/FS Workplan.

5.2.4 RI/FS Workplan Revisions. If Respondent proposes to modify any methods or initiates new activities for which no Field Sampling Plan, Health and Safety Plan, Quality Assurance Project Plan or other necessary procedures/plans have been established, Respondent shall prepare an addendum to the approved plan(s) for DTSC review and approval prior to modifying the method or initiating new activities.

5.3 Interim Screening and Evaluation of Remedial Technologies. At the request of DTSC, Respondent shall submit an interim document which identifies and evaluates potentially suitable remedial technologies and recommendations for treatability studies.

5.4 Treatability Studies. Treatability testing will be performed by Respondent to develop data for the detailed remedial alternatives. Treatability testing is required to demonstrate the implementability and effectiveness of technologies, unless Respondent can show DTSC that similar data or documentation or information exists. The required deliverables are: a workplan, a sampling and analysis plan, and a treatability evaluation report. To the extent practicable, treatability studies will be proposed and implemented during the latter part of Site characterization.

5.5 Remedial Investigation (RI) Report. The RI Report shall be prepared and submitted by Respondent to DTSC for review and approval in accordance with the approved RI/FS workplan schedule. The purpose of the RI is to collect data necessary to adequately characterize the Site for the purposes of defining risks to public health and the environment and developing and evaluating effective remedial alternatives. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the investigation. Respondent shall identify the sources of contamination and define the nature, extent, and volume of the contamination. Using this information, the contaminant fate and transport shall be evaluated. The RI Report shall contain:

(a) Site Physical Characteristics. Data on the physical characteristics of the Site and surrounding area shall be collected to the extent necessary to define potential transport pathways and receptor populations and to provide sufficient engineering data for development and screening of remedial action alternatives.

(b) Sources of Contamination. Contamination sources (including heavily contaminated media) shall be defined. The data shall include the source locations, type of contaminant, waste characteristics, and Site features related to contaminant migration and human exposure.

(c) Nature and Extent of Contamination. Contaminants shall be identified and the horizontal and vertical extent of contamination shall be defined in soil, groundwater, surface water, sediment, air, and biota. Spatial and temporal trends and the fate and transport of contamination shall be evaluated.

5.6 Baseline Health and Ecological Risk Assessment. Respondent shall perform health and ecological risk assessments for the Site that meet the requirements of Health and Safety Code ' 25356.1.5(b). Respondent shall submit a Baseline Health and Ecological Risk Assessment Report, if applicable, within thirty (30) days or as required by DTSC from the submittal of the RI Report. The report shall be prepared consistent with U.S. EPA and DTSC guidance and regulations, including as a minimum: Risk Assessment Guidance for Superfund, Volume 1; Human Health Evaluation Manual, December 1989; Superfund Exposure Assessment Manual, April 1988;

Risk Assessment Guidance for Superfund, Volume 2, Environmental Evaluation Manual, March 1989; and all other related or relevant policies, practices and guidelines of the California Environmental Protection Agency and policies, practices and guidelines developed by U.S.EPA pursuant to 40 CFR 300.400 et seq. The Baseline Health and Ecological Risk Assessment Report shall include the following components:

- (a) Contaminant Identification. Characterization data shall identify contaminants of concern for the risk assessment process.
- (b) Environmental Evaluation. An ecological assessment consisting of:
 - (1) Identification of sensitive environments and rare, threatened, or endangered species and their habitats; and
 - (2) As appropriate, ecological investigations to assess the actual or potential effects on the environment and/or develop remediation criteria.
- (c) Exposure Assessment. The objectives of an exposure assessment are to identify actual or potential exposure pathways, to characterize the potentially exposed populations, and to determine the extent of the exposure. Exposed populations may include industrial workers, residents, and subgroups that comprise a meaningful portion of the general population, including, but not limited to, infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations, that are identifiable as being at greater risk of adverse health effects due to exposure to hazardous substances than the general population.
- (d) Toxicity Assessment. Respondent shall evaluate the types of adverse health or environmental effects associated with individual and multiple chemical exposures; the relationship between magnitude of exposures and adverse effects; and related uncertainties such as the weight of evidence for a chemical's potential carcinogenicity in humans.
- (e) Risk Characterization. Risk characterization shall include the potential risks of adverse health or environmental effects for each of the exposure scenarios derived in the exposure assessment.

5.7 Feasibility Study (FS) Report. The FS Report shall be prepared and submitted by Respondent to DTSC for review and approval, no later than thirty (30) days from submittal of the RI Report. The FS Report shall summarize the results of the FS including the following:

- (a) Documentation of all treatability studies conducted.

(b) Development of medium specific or operable unit specific remedial action objectives, including legal requirements and other promulgated standards that are relevant.

(c) Identification and screening of general response actions, remedial technologies, and process options on a medium and/or operable unit specific basis.

(d) Evaluation of alternatives based on the criteria contained in the NCP including:

Threshold Criteria:

(1) Overall protection of human health and the environment.

(2) Compliance with legal requirements and other promulgated standards that are relevant.

Primary Balancing Criteria:

(1) Long-term effectiveness and permanence.

(2) Reduction of toxicity, mobility, or volume through treatment.

(3) Short-term effectiveness.

(4) Implementability based on technical and administrative feasibility.

(5) Cost.

Modifying Criteria:

(1) State and local agency acceptance.

(2) Community acceptance.

(e) Proposed remedial actions,

5.8 Public Participation Plan (Community Relations). Respondent shall work cooperatively with DTSC in providing an opportunity for meaningful public participation in response actions. Any such public participation activities shall be conducted in accordance with Health and Safety Code sections 25356.1 and 25358.7 and DTSC's most current Public Participation Policy and Guidance Manual, and shall be subject to DTSC's review

and approval.

Respondent, in coordination with DTSC, shall conduct a baseline community survey and develop a Public Participation Plan (PPP) which describes how, under this Order, the public and adjoining community will be kept informed of activities conducted at the Site and how Respondent will be responding to inquiries from concerned citizens. Major steps in developing a PPP are as follows:

- (a) Develop proposed list of interviewees;
- (b) Schedule and conduct community interviews; and
- (c) Analyze interview notes, and develop objectives.

Respondent shall conduct the baseline community survey and submit the PPP for DTSC's review within forty (40) days of the effective date of this Order.

Respondent shall implement any of the public participation support activities identified in the PPP, at the request of DTSC. DTSC retains the right to implement any of these activities independently. These activities include, but are not limited to, development and distribution of fact sheets; public meeting preparations; and development and placement of public notices.

5.9 California Environmental Quality Act (CEQA). DTSC must comply with CEQA insofar as activities required by this Order are projects requiring CEQA compliance. Upon DTSC request, Respondent shall submit any information deemed necessary by DTSC to facilitate compliance with CEQA. The costs incurred by DTSC in complying with CEQA are response costs and Respondent shall reimburse DTSC for such costs pursuant to Section 6.19.

5.10 Remedial Action Plan (RAP). No later than thirty (30) days after DTSC approval of the FS Report, Respondent shall prepare and submit to DTSC a draft RAP. The draft RAP shall be consistent with the NCP and Health and Safety Code section 25356.1. The draft RAP public review process may be combined with that of any other documents required by CEQA. The draft RAP shall be based on and summarize the approved RI/FS Reports, and shall clearly set forth:

- (a) Health and safety risks posed by the conditions at the Site.
- (b) The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources.
- (c) The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses.

(d) Site specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydro geologic conditions, as well as preexisting background contamination levels.

(e) Cost-effectiveness of alternative remedial action measures. Land disposal shall not be deemed the most cost-effective measure merely on the basis of lower short-term cost.

(f) The potential environmental impacts of alternative remedial action measures, including, but not limited to, land disposal of the untreated hazardous substances as opposed to treatment of the hazardous substances to remove or reduce their volume, toxicity, or mobility prior to disposal.

(g) A statement of reasons setting forth the basis for the removal and remedial actions selected. The statement shall include an evaluation of each proposed alternative submitted and evaluate the consistency of the removal and remedial actions proposed by the plan with the NCP.

(h) A schedule for implementation of all proposed removal and remedial actions.

In conjunction with DTSC, Respondent shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual. Within ten (10) days of closure of the public comment period, Respondent shall submit to DTSC a written Responsiveness Summary of all written and oral comments presented and received during the public comment period.

Following DTSC's review and finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAP. Respondent shall modify the document in accordance with DTSC's specifications and submit a final RAP within fifteen (15) days of receipt of DTSC's comments.

5.11 Remedial Design (RD). Within sixty (60) days after DTSC approval of the final RAP, Respondent shall submit to DTSC for review and approval a RD describing in detail the technical and operational plans for implementation of the final RAP which includes the following elements, as applicable:

(a) Design criteria, process unit and pipe sizing calculations, process diagrams, and final plans and specifications for facilities to be constructed.

(b) Description of equipment used to excavate, handle, and transport contaminated material.

(c) A field sampling and laboratory analysis plan addressing sampling during implementation and to confirm achievement of the performance objectives of the RAP.

- (d) A transportation plan identifying routes of travel and final destination of wastes generated and disposed.
- (e) For groundwater extraction systems: aquifer test results, capture zone calculations, specifications for extraction and performance monitoring wells, and a plan to demonstrate that capture is achieved.
- (f) An updated health and safety plan addressing the implementation activities.
- (g) Identification of any necessary permits and agreements.
- (h) An operation and maintenance plan including any required monitoring.
- (i) A detailed schedule for implementation of the remedial action consistent with the schedule.

5.12 Deed Restrictions. If the approved remedy in the Final RAP includes deed restrictions, the current owner of the Site shall sign and record deed restrictions approved by DTSC within ninety (90) days of DTSC's approval of the final RAP.

5.13 Implementation of Final RAP. Upon DTSC approval of the RD, Respondent shall implement the final RAP in accordance with the approved schedule in the RD. Within thirty (30) days of completion of field activities, Respondent shall submit an Implementation Report documenting the implementation of the Final RAP and RD.

5.14 Operation and Maintenance (O&M). Respondent shall comply with all O&M requirements in accordance with the final RAP and approved RD. Within thirty (30) days of the date of DTSC's request, Respondent shall prepare and submit to DTSC for approval an O&M workplan that includes an implementation schedule. Respondent shall implement the workplan in accordance with the approved schedule.

5.15 Five-Year Review. Respondent shall review and reevaluate the remedial action after a period of five years from the completion of construction and startup, and every five year(s) thereafter. The review and reevaluation shall be conducted to determine if human health and the environment are being protected by the remedial action. Within thirty (30) calendar days before the end of the time period approved by DTSC to review and reevaluate the remedial action, Respondent shall submit a remedial action review workplan to DTSC for review and approval. Within sixty (60) days of DTSC's approval of the workplan, Respondent shall implement the workplan and shall submit a comprehensive report of the results of the remedial action review. The report shall describe the results of all sample

analyses, tests and other data generated or received by Respondent and evaluate the adequacy of the implemented remedy in protecting public health, safety and the environment. As a result of any review performed under this Section, Respondent may be required to perform additional Work or to modify Work previously performed.

5.16 Changes During Implementation of the Final RAP. During the implementation of the final RAP and RD, DTSC may specify such additions, modifications, and revisions to the RD as DTSC deems necessary to protect public health and safety or the environment or to implement the RAP.

5.17 Stop Work Order. In the event that DTSC determines that any activity (whether or not pursued in compliance with this Order) may pose an imminent or substantial endangerment to the health or safety of people on the Site or in the surrounding area or to the environment, DTSC may order Respondent to stop further implementation of this Order for such period of time needed to abate the endangerment. In the event that DTSC determines that any site activities (whether or not pursued in compliance with this Order) are proceeding without DTSC authorization, DTSC may order Respondent to stop further implementation of this Order or activity for such period of time needed to obtain DTSC authorization, if such authorization is appropriate. Any deadline in this Order directly affected by a Stop Work Order, under this Section, shall be extended for the term of the Stop Work Order.

5.18 Emergency Response Action/Notification. In the event of any action or occurrence (such as a fire, earthquake, explosion, or human exposure to hazardous substances caused by the release or threatened release of a hazardous substance) during the course of this Order, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such emergency, release, or immediate threat of release and shall immediately notify the Project Manager. Respondent shall take such action in consultation with the Project Manager and in accordance with all applicable provisions of this Order. Within seven days of the onset of such an event, Respondent shall furnish a report to DTSC, signed by Respondent's Project Coordinator, setting forth the events which occurred and the measures taken in the response thereto. In the event that Respondent fail to take appropriate response and DTSC takes the action instead, Respondent shall be liable to DTSC for all costs of the response action. Nothing in this Section shall be deemed to limit any other notification requirement to which Respondent may be subject.

5.19 Discontinuation of Remedial Technology. Any remedial technology employed in implementation of the final RAP shall be left in place and operated by Respondent until and except to the extent that DTSC authorizes Respondent in writing to discontinue, move or modify some or all of the remedial technology because Respondent has met the criteria specified in the final RAP for its discontinuance, or because the modifications would better achieve the goals of the final RAP.

5.20 Financial Assurance. Respondent shall demonstrate to DTSC and maintain financial assurance for operation and maintenance and monitoring. Respondent shall

demonstrate financial assurance prior to the time that operation and maintenance activities are initiated and shall maintain it throughout the period of time necessary to complete all required operation and maintenance activities. The financial assurance mechanisms shall meet the requirements of Health and Safety Code section 25355.2. All financial assurance mechanisms are subject to the review and approval of DTSC.

VI. GENERAL PROVISIONS

6.1 Project Coordinator. Within ten (10) days from the date this Order is issued by the Department, Respondent shall submit to the Department in writing the name, address, and telephone number of a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals, and other communications from the Department. Respondent shall promptly notify the Department of any change in the identity of the Project Coordinator.

6.2 Project Engineer/Geologist. The work performed pursuant to this Order shall be under the direction and supervision of a qualified professional engineer or a registered geologist in the State of California, with expertise in hazardous substance site cleanup. Within fifteen (15) calendar days from the date this Order is issued by the Department, Respondent shall submit to the Department: a) The name and address of the project engineer or geologist chosen by the Respondent; and b) in order to demonstrate expertise in hazardous substance cleanup, the résumé of the engineer or geologist, and the statement of qualifications of the consulting firm responsible for the work. Respondent shall promptly notify the Department of any change in the identity of the Project Engineer/Geologist. Respondent shall obtain approval from DTSC before the new Project Engineer/Geologist performs any work under this Order.

6.3 Monthly Summary Reports. Within thirty (30) days from the date this Order is signed by DTSC, and on a monthly basis thereafter, Respondent shall submit a Monthly Summary Report of its activities under the provisions of this Order. The report shall be received by DTSC by the fifteenth (15th) day of each month and shall describe:

- (a) Specific actions taken by or on behalf of Respondent during the previous calendar month;
- (b) Actions expected to be undertaken during the current calendar month;
- (c) All planned activities for the next month;
- (d) Any requirements under this Order that were not completed;
- (e) Any problems or anticipated problems in complying with this Order; and

(f) All results of sample analyses, tests, and other data generated under this Order during the previous calendar month, and any significant findings from these data.

6.4 Quality Assurance/Quality Control (QA/QC). All sampling and analysis conducted by Respondent under this Order shall be performed in accordance with QA/QC procedures submitted by Respondent and approved by DTSC pursuant to this Order.

6.5 Submittals. All submittals and notifications from Respondent required by this Order shall be sent simultaneously to:

Barbara J. Cook, P.E., Chief
Northern California Coastal Cleanup Operations Branch
Attention: Katharine Hilf
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

6.6 Communications. All approvals and decisions of DTSC made regarding submittals and notifications will be communicated to Respondent in writing by the Northern California Coastal Cleanup Operations Branch Chief, Department of Toxic Substances Control, or his/her designee. No informal advice, guidance, suggestions or comments by DTSC regarding reports, plans, specifications, schedules or any other writings by Respondent shall be construed to relieve Respondent of the obligation to obtain such formal approvals as may be required.

6.7 DTSC Review and Approval.

6.7.1 All response actions taken pursuant to this Order shall be subject to the approval of DTSC. Respondent shall submit all deliverables required by this Order to DTSC. Once the deliverables are approved by DTSC, they shall be deemed incorporated into, and where applicable, enforceable under this Order.

6.7.2 If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Order fails to comply with this Order or fails to protect public health or safety or the environment, DTSC may:

- (a) Modify the document as deemed necessary and approve the document as modified; or
- (b) Return comments to Respondent with recommended changes and a date by which Respondent must submit to DTSC a revised document incorporating the recommended changes.

6.7.3 Any modifications, comments or other directives issued pursuant to section 6.7.2, are incorporated into this Order. Any noncompliance with these modifications or directives shall be deemed a failure or refusal to comply with this Order.

6.8 Compliance with Applicable Laws. Nothing in this Order shall relieve Respondent from complying with all other applicable laws and regulations, including but not limited to compliance with all applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board. Respondent shall conform all actions required by this Order with all applicable federal, state and local laws and regulations.

6.9 Respondent Liabilities. Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current or future operations of Respondent. Nothing in this Order is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site. Nothing in this Order is intended or shall be construed to limit or preclude DTSC from taking any action authorized by law to protect public health or safety or the environment and recovering the cost thereof. Notwithstanding compliance with the terms of this Order, Respondent may be required to take further actions as are necessary to protect public health and the environment.

6.10 Site Access. Access to the Site and laboratories used for analyses of samples under this Order shall be provided at all reasonable times to employees, contractors, and consultants of DTSC. Nothing in this Section is intended or shall be construed to limit in any way the right of entry or inspection that DTSC or any other agency may otherwise have by operation of any law. DTSC and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable times for purposes including, but not limited to: inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of Respondent in carrying out the terms of this Order; conducting such tests as DTSC may deem necessary; and verifying the data submitted to DTSC by Respondent.

To the extent the Site or any other property to which access is required for the implementation of this Order is owned or controlled by persons other than Respondent, Respondent shall use best efforts to secure from such persons access for Respondent, as well as DTSC, its representatives, and contractors, as necessary to effectuate this Order. To the extent that any portion of the Site is controlled by tenants of Respondent, Respondent shall use best efforts to secure from such tenants, access for Respondent, as well as for DTSC, its representatives, and contractors, as necessary to effectuate this Order. For purposes of this Section, Best efforts includes the payment of reasonable sums of money in consideration of access. If any access required to

complete the Work is not obtained within forty-five (45) days of the effective date of this Order, or within forty-five (45) days of the date DTSC notifies Respondent in writing that additional access beyond that previously secured is necessary, Respondent shall promptly notify DTSC, and shall include in that notification a summary of the steps Respondent has taken to attempt to obtain access. DTSC may, as it deems appropriate, assist Respondent in obtaining access. Respondent shall reimburse DTSC in obtaining access, including, but not limited to, attorneys fees and the amount of just compensation.

6.11 Sampling, Data and Document Availability. Respondent shall permit DTSC and its authorized representatives to inspect and copy all sampling, testing, monitoring or other data generated by Respondent or on Respondent behalf in any way pertaining to work undertaken pursuant to this Order. Respondent shall submit all such data upon the request of DTSC. Copies shall be provided within seven (7) days of receipt of DTSC's written request. Respondent shall inform DTSC at least seven (7) days in advance of all field sampling under this Order, and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by Respondent pursuant to this Order. Respondent shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order.

6.12 Record Retention. All such data, reports and other documents shall be preserved by Respondent for a minimum of ten years after the conclusion of all activities under this Order. If DTSC requests that some or all of these documents be preserved for a longer period of time, Respondent shall either comply with that request or deliver the documents to DTSC, or permit DTSC to copy the documents prior to destruction. Respondent shall notify DTSC in writing, at least six months prior to destroying any documents prepared pursuant to this Order.

6.13 Government Liabilities. The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by Respondent, or related parties specified in Section 6.26, Parties Bound, in carrying out activities pursuant to this Order, nor shall the State of California be held as party to any contract entered into by Respondent or its agents in carrying out activities pursuant to this Order.

6.14 Additional Actions. By issuance of this Order, DTSC does not waive the right to take any further actions authorized by law.

6.15 Extension Requests. If Respondent is unable to perform any activity or submit any document within the time required under this Order, Respondent may, prior to expiration of the time, request an extension of the time in writing. The extension request shall include a justification for the delay. All such requests shall be in advance of the date on which the activity or document is due.

6.16 Extension Approvals. If DTSC determines that good cause exists for an extension, it will grant the request and specify a new schedule in writing. Respondent shall comply with the new schedule incorporated in this Order.

6.17 Liability for Costs. Respondent is liable for all of DTSC's costs that have been incurred in taking response actions at the Site (including costs of overseeing response actions performed by Respondent) and costs to be incurred in the future.

6.18 Payment of Costs. DTSC may bill Respondent for costs incurred in taking response actions at the Site prior to the effective date of this Order. DTSC will bill Respondent quarterly for its response costs incurred after the effective date of this Order. Respondent shall pay DTSC within sixty (60) days of receipt of any DTSC billing. Any billing not paid within sixty (60) days is subject to interest calculated from the date of the billing pursuant to Health and Safety Code section 25360.1. All payments made by Respondent pursuant to this Order shall be by cashier's or certified check made payable to "DTSC," and shall bear on the face the project code of the Site (Site 201420) and the Docket number of this Order. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 "I" Street, 21st Floor
P.O. Box 806
Sacramento, California 95812-0806

A photocopy of all payment checks shall also be sent to the person designated by DTSC to receive submittals under this Order.

6.19 Severability. The requirements of this Order are severable, and Respondent shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

6.20 Incorporation of Plans, Schedules and Reports. All plans, schedules, reports, specifications and other documents that are submitted by Respondent pursuant to this Order are incorporated in this Order upon DTSC's approval or as modified pursuant to Section 6.7, DTSC Review and Approval, and shall be implemented by Respondent. Any noncompliance with the documents incorporated in this Order shall be deemed a failure or refusal to comply with this Order.

6.21 Modifications. DTSC reserves the right to unilaterally modify this Order. Any modification to this Order shall be effective upon the date the modification is signed by DTSC and shall be deemed incorporated in this Order.

6.22 Time Periods. Unless otherwise specified, time periods begin from the effective date of this Order and "days" means calendar days.

6.23 Termination and Satisfaction. Except for Respondent obligations under Sections 5.14 Operation and Maintenance (O&M), 5.15 Five-Year Review, 5.20 Financial Assurance, 6.13 Record Retention, 6.18 Liability for Costs, and 6.19 Payment of Costs, Respondent obligations under this Order shall terminate and be deemed satisfied upon Respondent receipt of written notice from DTSC that Respondent

has complied with all the terms of this Order.

6.24 Parties Bound. This Order applies to and is binding upon Respondent, and its officers, directors, agents, employees, contractors, consultants, receivers, trustees, successors and assignees, including but not limited to, individuals, partners, and subsidiary and parent corporations. Respondent shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Order, within fifteen (15) days after the effective date of this Order or the date of retaining their services, whichever is later. Respondent shall condition any such contracts upon satisfactory compliance with this Order. Notwithstanding the terms of any contract, Respondent is responsible for compliance with this Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Order.

6.25 Change in Ownership. No change in ownership or corporate or partnership status relating to the Site shall in any way alter Respondent's responsibility under this Order. No conveyance of title, easement, or other interest in the Site, or a portion of the Site, shall affect Respondent's obligations under this Order. Unless DTSC agrees that such obligations may be transferred to a third party, Respondent shall be responsible for and liable for any failure to carry out all activities required of Respondent by the terms and conditions of this Order, regardless of Respondent's use of employees, agents, contractors, or consultants to perform any such tasks. Respondent shall provide a copy of this Order to any subsequent owners or successors before ownership rights or stock or assets in a corporate acquisition are transferred.

VII. NOTICE OF INTENT TO COMPLY

7.1 Not later than fifteen (15) days after the effective date of this Order, Respondent(s) shall provide written notice, in accordance with paragraph 6.5 Submittals of this Order, stating whether or not Respondent will comply with the terms of this Order. If Respondent, or any one of them, do not unequivocally commit to perform all of the requirements of this Order, they, or each so refusing, shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondent's written notice shall describe, using facts that exist on or prior to the effective date of this Order, any Asufficient cause@defenses asserted by Respondent under Health and Safety Code sections 25358.3(a) and 25355.5(a)(1)(B) or CERCLA section 107(c)(3), 42 U.S.C. section 9607(c)(3).

VIII. EFFECTIVE DATE

This Order is final and effective five days from the date of mailing, which is the date of the cover letter transmitting the Order to you.

IX. PENALTIES FOR NONCOMPLIANCE

Each Respondent may be liable for penalties of up to \$25,000 for each day out of compliance with any term or condition set forth in this Order and for punitive damages up to three times the amount of any costs incurred by DTSC as a result of Respondent's failure to comply, pursuant to Health and Safety Code sections 25359, 25359.2, 25359.4, and 25367(c). Health and Safety Code section 25359.4.5 provides that a responsible party who complies with this Order, or with another order or agreement concerning the same response actions required by this Order, may seek treble damages from Respondent who fail or refuse to comply with this Order without sufficient cause.

DATE OF ISSUANCE: April 4, 2002

Original Signed by _____

Barbara J. Cook, P.E., Chief
Northern California Coastal Cleanup Operations Branch
Department of Toxic Substances Control

cc: Site Mitigation Program
Headquarters, Planning & Policy
Office of Legal Counsel

EXHIBIT B

Standard Chain Link Fence Specifications

The fence shall be a six foot high chain link fence topped with three (3) stands of barbed wire. The barbed wire shall be placed outward from the fence at an angle of between 30 to 45 degrees. The fence wire shall be at least eleven (11) gauge and woven into approximately two inch mesh. The fencing should have a knuckled finish on the top and bottom edges. The posts are to be made of galvanized metal and placed no more than ten (10) feet apart and set deeply enough to support the fencing. Corner post shall be set in concrete. Any access gates are to be of the same material as the fence and shall be secured with an appropriate padlock.

EXHIBIT C

Sign Specification

The following are specifications for warning signs which shall be posted in accordance with a Fence and/or Post Order:

1. The signs shall be bilingual, appropriate to the local area, and may include international symbols as may be required by the Department.
2. The signs shall read : “Caution: Hazardous Substance Area, Unauthorized Persons Keep Out” and shall have the name and telephone number of the Department, the name of the Department’s contact person or the name and telephone number of the county health officer that ordered the posting .
3. The lettering on the signs shall be legible from a distance of twenty five (25) feet.
4. The signs shall be visible from the surrounding area and be posted at each route of entry into the site. Signs shall be posted on the fence, facing outwards, at intervals of not more than 100 feet or less than 75 feet.
5. The signs shall be made of a material able to withstand the elements.

Exhibit A